ONLINE PERSONAL HEALTH DIAGNOSIS SYSTEM

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TO MY BELOVED

FATHER, MOTHER, BROTHERS AND SISTER

TO MY RESPECTED SUPERVISOR

DR. NOORMINSHAH BINTI A.IAHAD

FAMILY MEMBERS

BEST FRIENDS

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ABSTRACT

Online Personal Health Diagnosis System (PHDS) is an expert system that capable to diagnose user and produce health status report. The system operates by processing the information that was entered from user by following the rules that was prepared by the developer. PHDS is developed for Universiti Teknologi Malaysia (UTM) Skudai Health Center in order to decide which student should undergo for medical checkup. Medical checkup is a compulsory procedure especially for the new students who register in UTM. By using PHDS, only selected students should undergo for medical checkup and the doctors could spend more time with the necessary patients who need treatment. Therefore the purpose of this research is to show the system development of PHDS and also to identify the system requirements needed for PHDS.

ABSTRAK

Sistem Pakar Diagnosis Kesihatan adalah sistem pakar yang mampu untuk diagnosis pengguna dan menghasilkan laporan tahap kesihatan. Sistem ini beroperasi dengan memproses maklumat yang dimasukkan oleh pengguna berpandukan kepada peraturan yang telah ditetapkan oleh pembangun sistem. Sistem pakar diagnosis kesihatan di bangunkan khas untuk Pusat Kesihatan Mahasiswa Universiti Teknologi Malaysia Skudai bagi menentukan pelajar-pelajar yang disyakki untuk menjalani pemeriksaan kesihatan. Pemeriksaan kesihatan merupakan prosedur wajib bagi pelajar yang baru mendaftar di Universiti Teknologi Malaysia. Dengan menggunakan Sistem Pakar Diagnosis Kesihatan, hanya pelajar baru yang terpilih sahaja akan dinasihatkan untuk menjalani pemeriksaan kesihatan dan bagi pihak doktor, mereka boleh meluangkan lebih masa kepada pesakit-pesakit yang memerlukan rawatan. Oleh itu, faktor utama kajian ini dijalankan adalah untuk menunjukkan pembangunan Sistem Pakar Diagnosis Kesihatan dan juga mengenalpasti keperluan-keperluan untuk pembinaan sistem ini.

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CHAPTER 1

PROJECT OVERVIEW

1.1 Introduction

Personal Online Health Diagnosis system is an expert system which can diagnose user by following the algorithm or rules that was created by the developer. The system requires the user to answer a health questionnaire form where the symptoms are asked according to the sections.

User needs to answer the questions honestly because each of the questions will be counted and processed in order to decide the user health status. After finished answering the questionnaire, user will receive a health report which requires them to make an appointment with the doctor or not.

Development of online PHDS needs accurate data from an expert in order to give accurate, true and precise information to the user. The experts need to monitor and run the system for testing before it can be applied to the user. Using website, user can access the system everywhere in UTM. User also can access the system

anytime they free. By using PHDS, only selected students should undergo for medical checkup and the doctors could spend more time with the necessary patients who need treatment. Doctors also are able to keep track or monitor their patient by always referring to their health status record from time to time. As a result health quality can be improved by having web application that can diagnose the health of the user.

1.2 Problem Background

This research will be conducted in UTM Health Center. UTM Health Center is a facilities provided by UTM for the students and staffs to have treatment for their illness. There are about 300 students having treatment and about 60 pregnant women undergo their routine examination in a day. During the registration for new students, the health center becomes very crowded with the new student. This is because the every new student need to undergo for medical checkup process to fulfill the requirements needed in UTM registration. As a result, many students from every faculty in UTM headed to UTM Health Center to undergo the process. With only 4 doctors work in a day, and about 400 hundred existing patients waiting for turns to meet doctors, the patient that really need to meet doctor must wait for very long time to meet the doctor. The primary reason to develop online PHMS is to provide user with their health status report before going to any health center to undergo medical checkup. Online PHDS will be like second opinion to decide whether the student needs to undergo for medical checkup or not.

Investigation must be done to identify requirements that will be applied in online PHMS. By transferring the knowledge of the expert into the expert system, online PHMS is able to diagnose user based on the data that been entered by the user themselves. In collaboration with internet, online PHMS can be applied more

effectively because user can access online PHDS everywhere and during their leisure time. Lastly online PHMS that will be developed need to be able to monitor the user's health status from time to time and health status of the user can be referred by the doctor in order to give some advice or precaution.

1.3 Problem Statement

The problem statement for this research is

"How to develop Online Personal Health Diagnosis System? "

There are other questions rises while conducting this study:

1. What are the current personal health diagnosis system implementation and limitation and strength?
2. What is the web requirements needed to develop online PHDS?

1.4 Research Objectives

The research objectives are:

1. To investigate current online diagnosis system
2. To identify requirements for online PHDS.
3. To develop and evaluate online PHDS prototype.

1.5 Research Scope

This research will consider be held in UTM health center where there are around 4 doctors and 300 students come for treatment a day. This system also will be design for UTM students and staff to monitor their health status before undergo for medical checkup. Research focus is to capture the requirements by considering the diagnosis aspects of the online PHDS

1.6 Importance of Project

Personal health diagnosis system is a system that been develop to help doctors obtain the patients health status record as a reference before diagnose the patients while the patient could always be alert to keep their health status at the safe level. By adopting online PHDS, patients do not need to be undergoing same diagnosis question repeatedly when they meet the doctor and they will receive necessary and effective treatment based on their current health status records.

1.7 Summary

This chapter explain a brief introduction about the project and how the project. It also explains the reason why this project has been proposed. The objective, scope and importance of this project have also been stated.

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